

REMARKS

Reconsideration and allowance of the subject application in view of the following remarks is respectfully requested.

Claims Status/Amendment

Claims 13, 18 and 20 have been cancelled. Claims 1-12, 14-17, 18-19 and 20-25 remain pending in the application. New claim 26 is added.

Rejections under 35 USC § 103

- 1) The rejection of claims 1-4, 9, 14, 17, 19 and 21-23 under 35 USC § 103(a) as being unpatentable over Hantzer is respectfully traversed.

Even though Hantzer discloses a process for obtaining food grade hydrocarbons of naphtha range comprising very low aromatics. a key element which seems to be overlooked is the fact that the present invention specifies the quality of the product in terms of the actual aromatic content, i.e. 20ppm. It is evident that the specific knowledge of purity of a substance is crucial for further applicability of a substance.

Further, a person of ordinary skill in the art is bound to know the magnitude of importance of the various operating conditions of an experiment in order to get a desired product with well defined properties. In the instant application and as described in the claims, the inventors have specifically mentioned that the preferred temperature for the experiment is 150°C and the preferred pressure is 5 to 30 bars.

These two parameters are the most crucial parameters in a chemical reaction. A person of ordinary skill in the art on having gone through the Hantzer reference will in no way be able to arrive at the conclusion to conduct an experiment employing the specified conditions and to obtain the food grade solvent having specifically <20ppm of the aromatics.

Moreover, the temperature range provided by Hantzer is 150°C to 500°C. Contrary to this the temperature of present invention is 70°C to 180°C. On comparing the two temperature ranges the difference is quite evident irrespective of a small overlap. The Examiner's attention is

drawn to the vital fact that the upper temperature range of the present invention is almost equivalent to the lower temperature range of the Hantzer's document, and inasmuch as the rejection is not made under § 102 the implications of the two ranges must be appreciated by the hypothetical person of ordinary skill.

More specifically, the preferred temperature conditions for Hantzer's experiment is 250°C to 400°C. On the hand, the preferred temperature condition for the present invention is 150°C. It is pertinent to mention here that there is a difference of 100°C between the preferred temperature conditions of the two experiments which is a huge difference. Applicant submits that considering the teachings of the Hantzer's document, a person skilled in the art will not be encouraged to reduce the lower end of the preferred temperature range by 100°C. Moreover, the present invention provides a very specific preferred temperature conditions i.e. 150°C in contrast to the teachings of Hantzer's document where a wide range of 250°C to 400°C is provided.

Hantzer might have stated that the experimental conditions of temperature and pressure used in his experiment are significantly mild compared to conventional hydroprocessing technology. However, the Applicant would like to draw attention to the fact that the temperature and pressure conditions employed in the present invention to obtain the product with desired specific properties are much milder

It is well acknowledged fact that even a temperature difference of just few degrees in a chemical reaction can bring about crucial differences in properties of the end product and can affect widely the other process parameters. Thus, we can very well imagine the drastic changes that a hundred degree variation in temperature could very well be expected to bring about.

Applicant also draws attention again to the process involved in Hantzer reference vis-à-vis the present invention. It is submitted that the process employed by the Hantzer is fairly complicated one, involving four stages, each stage having its own operating conditions and catalyst requirement. On the other hand, the present invention involves a very simple procedure involving only one temperature range and a single catalyst.

Although, Hantzer has mentioned that the entire process can be carried out in a single

process unit and the experiment may occupy a common reactor, it is also important not to overlook the fact that Hantzer has specifically mentioned that the use of a multi-reactor train arrangement increases the process flexibility. As per the teachings of Hantzer, such use of multi-reactors permits operation of two reactors at different process conditions especially temperature, in order to improve the product quality. Therefore, the process preferred in Hantzer is obviously using different stages and not a single reactor system. This is clear evidence showing the process difference between the two inventions.

The process of the claimed invention therefore, is completely different from that of Hantzer, and a person of ordinary skills in the art in no way will come upon the process of present invention in view of Hantzer's teachings.

The Applicant further submits that having a common raw material for the claimed process in no way makes the present invention obvious over the Hantzer document.

The present invention is directed towards a cost-effective and less-complicated process with well defined process parameters for production of food grade solvent having specific properties.

Based on the above stated the Applicant submits that the process claimed in the present application is very much inventive (i.e. non-obvious) over the Hantzer document. The claimed subject matter therefore satisfies all the criteria of patentability.

- 2) The rejection of claims 10-12, 15 and 24-25 under 35 USC § 103(a) as being unpatentable over Hantzer in view of Cody is respectfully traversed.

In this rejection, Cody is cited in connection with the catalyst and is not relied upon in connection with the use of a stoichiometric amount of hydrogen – which is acknowledged is not disclosed in Hantzer. Indeed, only *In re Aller* is cited in connection with this issue.

It is submitted that this cite is not on point. In *In re Aller* the situation was that it was known that raising the temperature of a solution would increase the reaction rate, it was also known that increasing the concentration of an active reactant (i.e. acid) would also increase the rate of reaction. Varying one with respect to the other was held to be obvious to influence

reaction rate. However, in this instance, the situation is much more complex and we have several different parameters which are involved – thickness and the concentration of one of a number of elements. Unless, comparable level of predictability as found in *In re Aller* can be shown to exist, it is submitted that the rejection cannot be held to be tenable. *In re Aller* does not assist in showing that where multiple variables are involved and there is no direct well known correlation between the various variable that are involved – as different from temperature v concentration – then the rejection cannot be substantiated and should be withdrawn.

- 3) The rejection of claims 4-8 and 16 under 35 USC § 103(a) as being unpatentable over Hantzer in view of Everett is respectfully traversed.

In this rejection Everett is cited to suggest the use of a feed having an aromatic content of less than 20% by weight or in a range of 15-25% and boiling points in the range of 40°C – 170°C. However, again this is ancillary to the cite of *In re Aller* and does not overcome the admitted shortcomings of Hantzer.

Basically, the differences between the claimed subject matter and the disclosure of Hantzer are used as a guide to what teachings need to be extracted from secondary references. The position that what is known in a secondary reference would be transferred to the primary one is insufficient to enable a *prima facie* case of obviousness without some reasonable form of motivation. What Hantzer is not specifically limited to, is not disclosure – it is the absence of disclosure. It is respectfully submitted that what is not disclosed is not disclosure that would lead the thinking of the hypothetical person of ordinary skill toward the claimed subject matter. Disclosure, not the absence of same is essential to establish a *prima facie* case.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the application is in condition for allowance and a Notice to that effect is earnestly solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,
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